

**Notice of Allowability**

Application No.

10/523,284

Examiner

Karl J. Puttlitz

Applicant(s)

SCHWIRTEN ET AL.

Art Unit

1621

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Reply filed 10/5/2006.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application
- ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
- ☐ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other \_\_\_\_\_

THURMAN E. PAGE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600

### REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

The rejection under section 112, second paragraph is withdrawn since the amendments to claim 1 clarifies the steps of the gravitational separation.

The rejection under section 103 is withdrawn since there would not have been motivation to combine Bergman with the process of Isozaki. In this regard, Bergman teaches the esterification of dicarboxylic acids, whereas Isozaki teaches a process of forming an ester from epichlorohydrin and a monocarboxylic acid.

In this regard, during the production of a diester of a dicarboxylic acid, an emulsion is formed, in part, due to the incomplete esterification of all the dicarboxylic acid with the alcohol and by partial hydrolysis of the ester formed in the esterification process by an alkali solution. This "half ester" containing one ester group and a carboxylic acid group can stabilize an emulsion owing to a detergent effect of the "half ester" that contains a non-polar group (ester) and a polar group (carboxylate). The instant invention addresses this problem by treatment of the crude ester with a salt of a divalent metal and/or a polyvalent metal prior to or during phase separation helps to avoid the formation of this emulsion.

Isozaki describes a process for producing glycidyl esters of acrylic acid or methacrylic acid. The process involves forming an ester from epichlorohydrin and a monocarboxylic acid (acrylic acid or methacrylic acid) using a quaternary ammonium salt as a catalyst. Since no half-ester (detergent) is formed, there would be no expectation that an emulsion between an aqueous layer and an organic layer would

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form. Specifically, the catalyst deactivator is then added to the oil layer which contains the catalyst. Isozaki thus motivates those to add the salts to deactivate a catalyst for epichlorohydrin and a monocarboxylic acid, and not to add the salts prior to or during phase separation and avoid the formation of this emulsion from the formation of a diester.

Moreover, Isozaki's oil layer and aqueous layers appear to be first physically separated before the catalyst deactivator is added. In contrast, the claimed process adds the metal salt prior to or during the phase separation in order to reduce emulsion formation. Accordingly, this process step in Isozaki is different than the claimed process.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl J. Puttlitz whose telephone number is (571) 272-0645. The examiner can normally be reached on Monday to Friday from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K. Page, can be reached at telephone number (571) 272-0602.

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The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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